Association of the rs17576 Matrix Metalloproteinase 9 (MMP-9) Polymorphism With Endometriosis.

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Introduction

Endometriosis is characterized by the presence of endometrial tissue (stroma or glands) outside the uterine cavity. Metalloproteinases constitute a group of proteolytic enzymes which are vital for Extracellular Matrix (ECM) degradation and tissue remodeling which are the basic mechanisms for ectopic endometrial migration.As it has been demonstrated by previous studies, the eutopic endometrium of women with endometriosis intrinsically exhibits an increased production of molecules, among which metalloproteinases are found.

The purpose of this study is to investigate the association of the rs17576 Matrix Metalloproteinase 9 (MMP-9) polymorphism with endometriosis.

Participants /Methods

In this study 18 samples from women with endometriosis were included. Genetic material (DNA) from both eutopic and ectopic endometrium was extracted, and subsequently was amplified using PCR with gene specific primers. Incubation with BsoBI depicted in agarose gel the rs17576 polymorphism detection.

Results

Among women with endometriosis 50% have Wild Type genotype, 39% are heterozygous for the polymorphism and the other 11% is homozygous for the rs17576. Moreover, it is worth noting that it seems to be no difference in the detection and the genotype of the SNP polymorphism between the eutopic and ectopic endometrial tissue from the same patient.

Discussion

A larger number of samples could confirm the results above. Moreover an interesting approach would be to investigate the rs17576 polymorphism in different ectopic sites such as the fallopian tubes, the pelvic peritoneum, the urinary bladder or the chest. Also, the effect of different MMP-9 polymorphisms can be studied and possibly be associated with endometriosis.